

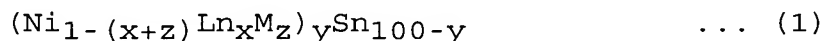
[Name of Document] What is claimed is:

[Claim 1] A nonaqueous electrolyte secondary battery characterized by comprising: a positive electrode; a negative electrode containing an alloy having a TiNiSi type crystal structure; and a nonaqueous electrolyte.

[Claim 2] The nonaqueous electrolyte secondary battery according to claim 1, characterized in that a lattice constant of crystal axis b of the TiNiSi type crystal structure falls within a range of 4Å to 5.5Å.

[Claim 3] The nonaqueous electrolyte secondary battery according to claim 1 or 2, characterized in that the alloy contains Sn.

[Claim 4] The nonaqueous electrolyte secondary battery according to any one of claims 1 to 3, characterized in that the alloy has a composition represented by formula (1) given below:



where Ln denotes at least one kind of element selected from the elements having an atomic radius falling within a range of 1.6×10^{-10} m to 2.2×10^{-10} m, M is at least one element selected from the group consisting of Ti, V, Co, Fe and Nb, and x, y and z satisfy the conditions of $0.4 \leq x + z \leq 0.7$, $40 \leq y \leq 80$ and $0 \leq z \leq 0.2$.

[Claim 5] A nonaqueous electrolyte secondary battery characterized by comprising: a positive electrode; a negative electrode containing an alloy having a ZrBeSi type crystal structure; and a nonaqueous electrolyte.

[Claim 6] A nonaqueous electrolyte secondary battery

characterized by comprising: a positive electrode; a negative electrode containing an alloy having a CeNiSi₂ type crystal structure; and a nonaqueous electrolyte.

[Claim 7] The nonaqueous electrolyte secondary battery according to claim 6, characterized in that a lattice constant of crystal axis "a" of the CeNiSi₂ type crystal structure falls within a range of 3.5Å to 5.5Å.

[Claim 8] The nonaqueous electrolyte secondary battery according to any one of claims 6 to 7, characterized in that the alloy contains at least one kind of element selected from the group consisting of P, Si, Ge, Sn and Sb.

[Claim 9] The nonaqueous electrolyte secondary battery according to any one of claims 6 to 8, characterized in that the alloy has a composition represented by formula (2) given below:



where Ln denotes at least one kind of element selected from the elements having an atomic radius falling within a range of 1.6×10^{-10} m to 2.2×10^{-10} m, M1 is at least one element selected from the group consisting of Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, and Nb, M2 is at least one element selected from the group consisting of P, Si, Ge, Sn and Sb, and x and y satisfy the conditions of $0.5 \leq x \leq 1.5$ and $1.5 \leq y \leq 3.5$.

[Claim 10] The nonaqueous electrolyte secondary battery according to any one of claims 1, 5 and 6, characterized in that the negative electrode satisfies formula (3) given below:

$$0.95 \geq (w/d)/\rho \geq 0.55 \quad \dots (3)$$

where ρ denotes a true density (g/cm³) of the alloy, d

denotes a thickness (μm) of the negative electrode, and w denotes a weight per unit area (g/m^2) of the negative electrode.